Thomas Edison’s quote, “Success is 10% inspiration and 90% perspiration” is commonly used in reference to the amount of work required by an individual to achieve a goal. I firmly believe this to be the credo of the effective use and integration of technology in education. I see technology as a tool or utility that assists educators in their quest to motivate, captivate, and engage students. Much like the novels and science experiments used in the classroom over the past centuries, technology can be an integral part in a child’s educational experience. Just as the calculator was introduced to assist students in computational exercises in order to allow the student to focus on the more complex minutia of the quadratic formula, access to the Internet in the classroom allows a student to research and compile information on the former Soviet Union without having to travel thousands of miles or spend weeks in a library. Much like any other innovation in history, the effective use of technology in the classroom is meant to increase the learning power and improve the skills of the student. While self-enhancement is the inspiration for technology in education, there are still many steps to effectively achieving the goal of integration.

Effective integration of technology in education is much more than simply providing computers in a classroom. Effective integration might include crafting a lesson that incorporates the use of temperature probes leading to a spark of inquiry into deeper exploration of a pond ecosystem by the student. It may also be as a result of the Internet and the intrigue in learning how the bits and bytes appear on the screen, and possibly how the person a student is chatting with in China can see the same images on the screen. In addition to the aforementioned strategies, it is the responsibility of the teacher to demonstrate, as well as empower, the techniques for critically evaluating information gathered through the Internet search engines and accompanying websites.

Successful integration of technology in education depends on three key elements: a sound pedagogical foundation, the funds to do it right, and the technical expertise and support to back it all up. Without a sound pedagogical foundation, integration becomes using technology for technology sake. It becomes a use of a new toy or innovation, simply because it is new. Basing technology integration on the premise of “the latest thing” most commonly results in failure. While funds are a must to do things right, the best solution does not always cost millions of dollars. Many of the best educational technology innovations on the market are free or shareware. The instructor must, in some way, be an economist and examine the cost-benefit ratio of the possible products. Determining the cost-benefit may also be an area the technical expertise can assist. The technical expertise will be able to assess the amount of labor or even funds that may be required. While a product may be easy to use from the end-user perspective, it may cost thousands of dollars and man-hours from the server (or administrative) perspective. The technical support also provides the instructor with a safety net to alleviate some (not all) of the technical frustration.

In my experience, I have found the following process to be of greatest benefit when integrating a technology into any experience. One must have a mission, goal, or purpose. What do I want to accomplish? As new ideas, technologies, and tools come along, compare that to the mission or purpose. Does it fit the end goal? If it doesn’t set it off to the side, make a note, but do not forget about it. There may be another use somewhere in the future. If it does fit the end goal, try it out. Take the time to learn the technology, explore the features, and put yourself in the place of an end-user. Once familiar with the basics, then try it in the production situation (i.e. the classroom). Do not be discouraged if the technology still does not work. Failure is not (and should not) be disappointing. The constant cycle of identifying, testing, and evaluating is not easy. While it may take time, money, sweat, and possibly tears, it will eventually result in a successful integration.

The process for successful integration of technology in education is “10% inspiration and 90% perspiration”. It all starts with an idea and follows with an abundance of thought. An instructor will only reap what they invest when integrating technology into education. While I believe this one theme frustrates and discourages faculty the most, I also firmly believe it is the most rewarding feeling when an instructor achieves success. We live in a society of instant gratification; fast food, cell phones, on-demand movies. It is important to remember, however, that those innovations we now take for granted, required someone put hours of thought, hard work, and time into the little bit of time it took to come up with the inspirational idea.